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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,316	09/26/2003	Koji Kobayashi		5336

7590 04/20/2006

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EXAMINER

LEWIS, BEN

ART UNIT PAPER NUMBER

1745

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,316

Applicant(s)

KOBAYASHI ET AL.

Examiner

Ben Lewis

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

Applicant's election of the species drawn to a fuel cell system (readable on claims 1-6) during a phone conversation with Mr. Loud on January 17th 2006 is acknowledged.

Claims 7-12 are withdrawn from further consideration pursuant to 37 CFR 1. 142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made without traverse during a phone conversation with Mr. Loud on January 17th 2006. *Claim Rejections - 35 USC § 102*

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Yang (U.S. Pub. No. 2003/0035986 A1).

Art Unit: 1745

With respect to claims 1-3, Yang discloses a diaphragm pump and anode stream recirculation system using such pump for a fuel cell wherein the anode gas flows through a switch **62** and a pressure regulating device **64** before entering the fuel cell **80** through an anode gas input **82**. The switch **62** can be a solenoid valve which is used to control the open/close of the gas flow in the piping and to determine whether fresh anode gas should be released from the anode gas supply **60**. The pressure regulating device **64** is used to adjust the pressure of the anode gas flowing therethrough. Generally, the flowing amount of the anode gas is set to be higher than the required Stoichiometric amount for a specific electrical power generation of the fuel cell so as to ensure that the electrochemical reaction takes place completely within the fuel cell **80** (Paragraph 0024).

With respect to claim 4, It is well known in the fuel cell art that fuel cells are connected to an external load in the normal power generation state as evidenced by Merritt et al. (U.S. Patent No. 5,366,821 Col 7 lines 10-20).

With respect to claims 5-6, Yang discloses a diaphragm pump and anode stream recirculation system using such pump for a fuel cell wherein the anode gas flows through a switch **62** and a pressure regulating device **64** before entering the fuel cell **80** through an anode gas input **82**. The switch **62** can be a solenoid valve which is used to control the open/close of the gas flow in the piping and to determine whether fresh

Art Unit: 1745

anode gas should be released from the anode gas supply 60. The pressure regulating device 64 is used to adjust the pressure of the anode gas flowing therethrough. The instant specification recites that it is preferred that the fuel cell system of the present invention further comprises a start switch for turning on and off of the fuel cell system wherein the power generation startup time of the fuel cell includes a predetermined period of time after the start switch is turned on (Paragraph 0014).

. Yang et al does not specifically teach wherein the fuel cell system comprises a start switch and wherein the power generation start-up time of the fuel cell includes a predetermined period of time after the start switch is turned on. However, it is the position of the examiner that such functions are inherent, given that Yang et al and the present application utilize the same pressure regulating system and the fuel cell of Yang would take a period of time after the reactive gasses are charged into the system to generate power. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. In re Robertson, 49 USPQ2d 1949 (1999).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481. The examiner can normally be reached on 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

Ben Lewis

Patent Examiner
Art Unit 1745